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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,429	06/25/2003	Kambhampati Ramakrishna	27-010	6314
22898	7590	11/03/2004	EXAMINER PHAM, HOAI V	
THE LAW OFFICES OF MIKIO ISHIMARU 1110 SUNNYVALE-SARATOGA ROAD SUITE A1 SUNNYVALE, CA 94087			ART UNIT 2814	PAPER NUMBER

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b> 10/606,429	<b>Applicant(s)</b> RAMAKRISHNA, KAMBHAMPATI	
	<b>Examiner</b> Hoai v Pham	<b>Art Unit</b> 2814	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-8 and 10 is/are rejected.
- 7) ☒ Claim(s) 4 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____.   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>25 June 2003</u> .  | 6) <input type="checkbox"/> Other: _____.                                   |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of claims 1-10 with traverse in the reply filed on August 17, 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 5, 6, 8, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Ku et al. [U.S. Pat. 6,677,663].

With respect to claims 1 and 6, Ku et al. (fig. 3, cols. 3-4) discloses a method of assembling a semiconductor package for a large die comprising:

providing a die pad (14), a plurality of inner bonding fingers (16), and a plurality of outer bonding fingers (26);

attaching a spacer (32) to the die pad (14);

attaching the large die (20) to the spacer (32);

wire bonding a plurality of wires (22) between the large die (20) and the plurality of inner bonding fingers (16), and a plurality of outer bonding fingers (26); and

encapsulating (28) the die pad (14), the plurality of inner bonding fingers (16), and a plurality of outer bonding fingers (26), the spacer (32), the large die (20) and the plurality of wires (22).

With respect to claims 3 and 8, Ku et al. discloses that wherein attaching the large die (20) attaches the large die (20) overlapping the inner edge of the plurality of bonding fingers (16) (see fig. 3).

With respect to claim 10, Ku et al. discloses that wherein wire bonding the large die attaches a wire (22) having a substantially 90° angle bend between the die and the plurality of bonding fingers (16) (see fig. 3).

With respect to claim 10, Ku et al. discloses that assembling the semiconductor package comprises assembling a leadframe ball grid array package (see fig. 3 and col. 3, lines 30-32).

5. Claims 1, 5-7, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Crowley et al. [U.S. Pat. 6,753,597].

With respect to claims 1 and 6, Crowley et al. (fig. 3, cols. 5-6) discloses a method of assembling a semiconductor package for a large die comprising:

providing a die pad (36), a plurality of inner bonding fingers (40), and a plurality of outer bonding fingers (38);

attaching a spacer (33) to the die pad (36);

attaching the large die (32) to the spacer (33);

wire bonding a plurality of wires (46) between the large die (32) and the plurality of inner bonding fingers (40), and a plurality of outer bonding fingers (38); and

encapsulating (44) the die pad (36), the plurality of inner bonding fingers (40), and a plurality of outer bonding fingers (38), the spacer (33), the large die (32) and the plurality of wires (46).

With respect to claim 5, Crowley et al. discloses that wherein wire bonding the large die attaches a wire (46) having a substantially 90° angle bend between the die and the plurality of bonding fingers (38) (see fig. 3).

With respect to claim 10, Crowley et al. discloses that assembling the semiconductor package comprises assembling a quad flat-packed non-leaded package (see fig. 3).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crowley et al. [U.S. Pat. 6,753,597].

Crowley et al. discloses that the spacer (33) is a conductive material (see col. 5, lines 40-41). Crowley et al. does not explicitly disclose the thickness of the conductive spacer, as claimed by Applicant. However, the thickness range would have been obvious to an ordinary artisan practicing the invention because, absent evidence of disclosure of criticality for the range giving unexpected results, it is not inventive to discover optimal or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955). Furthermore, the specification contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising therefrom. Where patentability is aid to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. See *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

***Allowable Subject Matter***

8. Claims 4 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoai v Pham whose telephone number is 571-272-1715. The examiner can normally be reached on M-F.

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HOAI PHAM  
PRIMARY EXAMINER